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Endrina Tay. Public library paraprofessionals and their use of web search tools. A Master's paper for the M.S. in L.S. degree. April, 2002. 61 pages. Advisor: Evelyn H. Daniel

This study investigates how paraprofessionals in public libraries across North Carolina are currently using web search tools in their work, how they assess their current level of competency in this area, and what their current training needs are. A survey was distributed to a cross-section of paraprofessionals in 70 county, regional and municipal public libraries across North Carolina.

Results from 152 responses reveal that paraprofessionals in North Carolina public libraries appear to have adapted well in the transition to a Web world, but training needs still exist. Respondents felt that web search tools have led to greater access to information sources and to more current information. Apart from time spent exploring the Web, and obtaining informal help from others who are more knowledgeable, classroom training and one-to-one tutoring appear to be the most helpful training methods. Privacy and confidentiality, accuracy of information and copyright were issues of concern.

Headings:

Libraries -- North Carolina

Paraprofessionals -- Training

Use studies -- Internet

Internet -- Teaching

Internet – Public Libraries

Internet search engines

PUBLIC LIBRARY PARAPROFESSIONALS AND THEIR USE OF WEB SEARCH TOOLS

by
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A Master's paper submitted to the faculty
of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements
for the degree of Master of Science in
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Approved by:

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Advisor

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I. INTRODUCTION

The Internet is here to stay. In schools, offices, homes, malls and other public places – every imaginable locality where people frequent, its influence is hard to miss. Over seven million unique Web pages are added to the Internet daily (Cyveillance, 2000). This exponential growth in Internet access and content has made the Internet a medium that is difficult to ignore or dismiss.

In the 16,000 public libraries across the United States, Internet access is considered essential, even indispensable. The U.S. National Commission on Libraries and Information Science (NCLIS) reported that in 1994, only 10% of library systems in the U.S. provided Internet access. In 2000, this figure jumped to 95% (Bertot & McClure, 2000).

Unlike a physical book with a Table of Contents and accompanying Indexes, negotiating the Internet presents it own special challenges. The development of search engines and efforts in building subject indexes over the past few years have been aimed at addressing the challenge of finding information on the Web. There are at least 15 major search engines and Web directories in use today (Search Engine Watch, 2002), and this does not include the large number of community-based and subject-specific search engines. The knowledge and ability to use such tools effectively open the door to the reservoir of information and services now available on the Internet that may otherwise not be as readily available to aid decision-making.

Libraries and library staff have not escaped the technological changes that have transformed daily life. While much has been said and written about this transformation in professional circles, concerns over information literacy and the need for skills upgrading among library paraprofessionals or support staff have not received as much attention. The Public Libraries Survey FY 1998 reports that two-thirds of full-time staff in public libraries are in support functions (National Center for Educational Statistics, 2001). In the state of North Carolina alone, only 22% of library staff have Masters degrees in Library Science qualifications (State Library of North Carolina, 2002).

This research paper focuses on the question: Are paraprofessionals in North Carolina public libraries in need of training in the use of Web search tools to increase their personal effectiveness in their daily work?

This study evaluates responses to a survey questionnaire that was completed by a sample of paraprofessionals from a cross-section of public libraries across North Carolina in March 2002 on how they are using Web search tools to find information to help them in their work, and to identify specific training needs that exist.

II. LITERATURE REVIEW

While a number of training needs surveys and studies have been conducted among library staff in recent years, these focus mainly on identifying general computer and IT literacy skills needed to help staff cope with changes in technology, rather than on Web search tools per se. There is little recent data on how library staff, in particular paraprofessionals or support staff, find information on the Internet, and what kind of training programs would be effective in addressing training needs.

Logan (1998) conducted an Internet usage survey among library media specialists and librarians in Colorado public libraries in order to assess how earlier grants to provide staff with training and a free Internet account had changed usage patterns. The study covered both librarians and library paraprofessionals. Eighty-one percent of librarians surveyed felt that the Internet had provided information they would otherwise not have access to, while 72% said that access to more current information has had a positive impact on their patrons. This study was, however, not designed to focus on Web search tools, and no update has been conducted since.

In 1997, the Staff Development Committee at the Valdosta State University Odum Library in Georgia conducted a Needs Assessment Survey among library faculty and staff. The study (Puffer-Rothenburg, 1998) focused largely on broad and subject-specific training needs and issues. It examined the training needs of different categories of staff, namely public services personnel, technical services personnel, clerical staff, staff supervising permanent staff and those supervising students or graduate assistants,

and paraprofessionals. It was not surprising that 63% of the staff had, over the previous two years, participated most often in IT or computer skills training. Paraprofessionals expressed high interest in learning more about computer- and Internet-related topics, with 88% very interested in Netscape and Internet access from home, and 78% very interested in electronic or automated reference resources. In terms of preferred learning methods for computer skills, 24% chose one-on-one instruction, 22% chose live lecture or demonstration, 15% chose independent reading cum hands-on practice, and 14% chose hands-on practice.

Duda and Meszaros (1999) refer to a training needs survey conducted among professional and paraprofessional staff in the Santa Barbara Library of the University of California prior to 1996. The aim of this survey was to ascertain the type of staff training needed with the advent of tiered reference service and the Internet. The original survey focused on the level of interest in receiving training in specific skill areas. In the area of computer skills training, staff were asked in the first survey whether they would be interested in receiving training on how to use telnet, email, explore the Internet, and the World Wide Web. What is interesting is that in their follow-up survey in 1997, they found that even after instruction had been offered, 32% wanted more training on exploring the Internet, while 26% wanted more classes on using the World Wide Web. They observed that with computer applications and the Internet becoming more integrated into the library's daily activities, "staff clearly wanted to develop expertise in these areas" (p.16). In terms of course format, the hands-on workshop format adopted for computer-related courses was well-received by participants. The courses were taught by teams, consisting of librarians and library assistants, who had developed the guides and

practical exercises. As one instructor lectured and demonstrated, at least one additional instructor roved among students and offered one-on-one assistance as needed, which helped compensate for differing skill levels among students.

Kirkpatrick (1998) discussed a survey that was conducted in the summer of 1996 among academic libraries within the Minnesota State Colleges and Universities system to determine the types of technologies library staff were receiving training on, the methods being used to train them, and notably, whether any differences existed in the training that professional and paraprofessional staff received. The study found that there were no substantial differences in the types of training that professionals and paraprofessionals received in terms of availability or training method. Internet training was available to all staff in 76.5% of the libraries (p.54). Among paraprofessionals, "individualized training by a co-worker (51%)" was the most frequently used method for all training (including Internet training), followed by "individualized training by supervisor (49%)," and then "in-house workshops (35%)" (p.57). The study however did not venture into the more qualitative aspects, for example, whether enough training was provided or whether training was successful.

In a different study on perceptions and opinions on technological change, Jones (1999) found that university library support staff prefer to learn new technologies in a workshop setting, followed by a structured class, and then on their own.

Palmini (1994) explored the effects of library computerization on the work and job satisfaction of support staff in academic libraries in Wisconsin. Some support staff in

this study (conducted in the days before the Internet) stated that they enjoyed the challenge of learning about computer applications that are necessary for the job on their own. However, a larger number felt dissatisfied with having to do so, citing poorly written manuals as part of the problem. "In both cases many voiced frustration with the lack of time to learn new systems (p.122)". However, over half reported feeling more job satisfaction following computerization because of the opportunity to learn new skills, better ways to help patrons, and the streamlining of procedures. Thirty-two percent said they felt about the same because they experienced both satisfaction and frustration if things did not work right. The survey also asked support staff if automation had increased their overall effectiveness on the job ("are you getting more done?"). Sixty-four percent said "yes" to an increase in overall effectiveness, while 18% said "no", and 18% reported no change (p.123). Among the comments made was "access to information is so much greater now" (p.127).

Holt (1996) described how technology is transforming the public library work environment in this way, "The growing World Wide Web network of home pages translates into thousands of free resources of information both more comprehensive and more up to date than published sources" (p.554). He discussed the need for public librarians to train each other and paraprofessionals who work with them. He pointed out that "outreach education and distance education still are primarily concerned with new certifications rather than training those in service" (p.560).

In a more recent article, Strasner (2000) observed that library paraprofessionals today are running libraries, and answering reference questions, and there is a need to

"provide the resources necessary for everyone in the library field to do his or her job to the best possible degree" (p.24).

Outside the U.S., Kendall (1999) reported on the findings of a U.K. survey to evaluate an introductory course on Web skills for librarians and paraprofessionals, where she concluded that more needs to be done to help library staff bring themselves up to speed. She found that 45% of course participants had had some prior training in using the Web. Previous training had been basic, mostly lasting half a day. Some were self-taught, while others had been given informal training in the workplace. The survey included a checklist of their awareness of search tools, and it was found that even those with the most experience were unaware of some resources. The course included "random searching," and comments from beginners demonstrated that they felt "their confidence growing very quickly" and that "there is something of interest for all librarians on the Internet" (p.100).

Han & Chaudhry (1999) reported that the work duties of public library paraprofessionals in Singapore have clearly changed. More than 50% of the paraprofessionals they surveyed reported having been assigned additional duties between 1996 to 1998 related to library programs, reference and information service, maintenance of computer equipment, use of new software, and staff training. Of these, respondents were found to be "less confident in IT related duties such as using new computer software and maintenance of computer equipment" (p.15). Thirty-nine percent felt that they needed more training in providing information services, while 30% felt they needed more training in using new software (p.16).

Bertot & McClure (1997) in the NCLIS paper on policy issues affecting public libraries called for investment not only in ongoing learning but also in the development of critical thinking skills, which include "the ability to obtain information and apply it in new ways to solve problems – especially in new environments such as the Internet" (p.20).

Library support staff surveyed by the Support Staff Interests Round Table of the American Library Association cited "keeping up with technological changes" (ALA/SSIRT, 1997) as one of their top five issues of concern, together with "access to continuing education and training opportunities" (p.1).

There is an absence of recent data in the literature on the current training needs of paraprofessionals or support staff in public libraries in general, much less in the state of North Carolina specifically. Most studies were conducted in academic library settings, where access to skills training and knowledge is likely to be more readily available than in a public library or school media setting. What is clear is that the jobs of library professionals and paraprofessionals have become more challenging and demanding, and that certainly, new skills are needed.

This study aims to better understand these issues in relation to Web search tools. It aims to understand how library paraprofessionals in North Carolina are currently utilizing these tools in their daily work, their competency levels in using these tools, in order to identify specific training needs to be addressed in this area. No such data currently exists in the published literature.

III. RESEARCH METHODOLOGY

A survey questionnaire was distributed to a sample of paraprofessionals from public libraries across North Carolina. The purpose of the study was to understand how these paraprofessionals are currently using Web search tools in their work, how they assess their current level of competency in this area, and what their current training needs are.

There are 76 county, regional and municipal public library systems in the state of North Carolina (State Library of North Carolina, 2000). Among the 2,900 staff (full time equivalent) who work there, an estimated 2,200 are paraprofessionals.

Library paraprofessionals are defined as library staff who do not hold professional librarian qualifications, that is, a Masters in Library Science (MLS) degree or its equivalent from ALA-accredited institutions or non ALA-accredited institutions.

A deliberate decision was made to adopt a paper-based format rather than a Web-based survey so that those who are less familiar or comfortable in the Web environment would not be discouraged from taking part in this survey, and responses from the sample would more closely reflect the actual profile of paraprofessionals across the state.

The survey was distributed to all the public library systems in the state, except for the six largest county library systems in North Carolina, namely Mecklenburg, Wake, Guilford (Greensboro), Forsyth, Cumberland and Durham. These six county systems each have more than 100 staff and were excluded from this study, as their training needs

and requirements are likely to differ from the needs of the majority of much smaller county library systems in the rest of the state.

The research proposal, survey instrument and cover letters were reviewed and approved for use with human subjects first by the Local Review Committee of the School of Information and Library Science, and then by the Academic Affairs Institutional Review Board of the University of North Carolina at Chapel Hill in end February 2002. The surveys were then mailed to library directors of the 70 county, regional and municipal library systems in early March 2002.

A total of 232 questionnaires were mailed based on the distribution schema outlined below in Table 1. The number of full-time equivalent non MLS staff in each library system was obtained from the latest *Statistics & Directory of North Carolina Public Libraries, July 1, 2000 - June 30, 2001* Report (State Library of North Carolina, 2000).

Table 1
Distribution Schema For Survey Questionnaires

Number of Non MLS staff in Library System	Number of Questionnaires Distributed
30 and above	5
20 – 29	4
10 – 19	3
5 – 9	2
Below 5	1

Library directors were asked to distribute the questionnaires to a sample of library paraprofessionals in their library system. In selecting staff to complete this survey, directors were asked to include a mix of paraprofessional staff along varying dimensions, such as years of service, years of library experience, educational experience and experience using the Web, so that the data obtained would reflect the staff profile within that library. Where there were two or more branches in the library system, directors were asked to include at least one paraprofessional from each branch library.

On completion of the questionnaires, respondents were asked to seal them in the envelopes provided and return them to their library director so that these could be batched and returned in a self-addressed, stamped envelope. This distribution method proved effective as the library director became the single contact point within each library system. A 100% response rate was received from the majority of libraries who chose to participate in the survey.

Library directors were given about two weeks to return the completed questionnaires. By March 15, 2002, a total of 69 questionnaires had been returned, resulting in a response rate of 30%. A reminder was emailed earlier that morning to directors of the libraries whose returns had not been received. In the two weeks that followed the reminder, an additional 83 questionnaires were returned, bringing the total number of questionnaires received to 152 and the overall survey response rate to 66%.

IV. SURVEY QUESTIONNAIRE

The survey instrument was in the form of a six-page questionnaire and was accompanied by separate cover letters, one addressed to the library director and the other addressed to library paraprofessionals (see Appendix). Respondents were asked about their experiences using various Web search tools, factors that determine their current level of Web searching, issues of concern on the Web, and previous training they may have undergone in learning how to use these tools.

As an indicator of whether the use of such tools has increased their personal effectiveness in their work, respondents were asked how these tools have had an impact on their work. To identify training needs in this area, respondents were also asked to assess how confident they feel in using Web search tools in general. Significant effort was invested to make the questionnaire easy to complete and to keep it as short as possible. Informal pre-testing of the survey instrument showed that each questionnaire would take less than 15 minutes to complete.

In designing the survey instrument, the Colorado Librarian Internet Use survey (Logan, 1998) and the Odum Library Needs Assessment Survey (Puffer-Rothenberg, 1998) were useful references.

Question 1 examined the respondent's level of knowledge and experience with a list of Web search tools. This list is based on the major search engines and directories as listed by Search Engine Watch on their Web site as at January 2002. This list also includes two relatively new and highly rated meta-search engines, namely Profusion and

Ixquick. Respondents could also include other subject-specific or specialty search engines or directories they were familiar with and used, but were not listed by noting them down under a general category named "Others." To assess level of knowledge, they were first asked to indicate whether they were aware of each of the tools listed. The list was arranged alphabetically in ascending order, and survey participants were asked to indicate awareness (that is whether they had heard of this tool) based purely on its name. Then, to assess actual usage, they were asked to indicate which ones they had used at least once over the last three months.

Question 2 asked respondents to indicate the top two Web search tools they use at work or at home to find information on the Internet. If the respondent did not use the Internet at all, or any of the Web search tools in the list, he or she was directed to Question 2(b), which elicited the key reason for non usage.

Question 3 gathered some information on respondents' frequency of use and the environment in which the respondent worked in every day.

Question 4 then asked respondents to assess their current level of confidence in using such tools and their desire for training.

Question 5 asked respondents how the use of Web search tools has had the most impact on their work. They were asked to choose a maximum of two responses that applied to them best.

Question 6 attempted to understand specific factors that influenced how much Web searching respondents were able or willing to do on the job.

Question 7 asked respondents about how they felt about issues of concern relating to Web searching, as possible input to identifying specific areas that training may need to address.

Questions 8 and 9 asked respondents about chief training methods they may have adopted (or were subjected to) in previous computer-related training such as learning about the Internet, as a proxy for preferred learning methods to adopt in future training efforts in using Web search tools.

The remaining questions provided useful background information on respondents.

Questions 10 to 12 gauged the level of experience or proficiency with using the Internet and with using computers in general.

Question 13 gathered data on respondents' length of experience in the library field.

Question 14 distinguished respondents who worked full-time versus those who worked part-time. Question 15 solicited information on respondents' primary work area by the proportion of time spent in reference, circulation, cataloging, acquisitions, serials or other functions, since a respondent's nature of work in the library may have had an

influence on his or her level of experience with Web search tools. This was paired with Question 18 which asked respondents to state their formal job title.

Finally, Questions 16 and 17 looked at whether respondents were members of a library or paraprofessional organization, and assessed whether they were utilizing electronic resources available from professional Web sites and listservs.

V. FINDINGS

Participation Rate

A total of 152 survey questionnaires were received from 47 (or 67%) of the 70 libraries surveyed. Based on the 232 questionnaires that were mailed to these 70 libraries, the overall respondent participation rate was 66%.

Among the survey responses, 67% were from county library systems, 27% were from regional library systems, while 6% were from municipal libraries. The highest returns came from county libraries where there was a respondent participation rate of 70%. The corresponding figure was 66% in regional libraries, while only 38% in municipal libraries chose to participate in this study. Details are provided in Table 2.

Table 2
Survey Participation Rate

Library Type	Respondent Participation Rate	Number of Surveys		Number of Libraries	
		Mailed	Returned	Mailed	Returned
County	70%	146 (63%)	102 (67%)	45 (64%)	33 (70%)
Regional	66%	62 (27%)	41 (27%)	15 (22%)	9 (19%)
Municipal	38%	24 (10%)	9 (6%)	10 (14%)	5 (11%)
TOTAL	66%	232 (100%)	152 (100%)	70 (100%)	47 (100%)

Profile of Survey Respondents

The number of years' experience in the library field for survey participants ranged from one to 35 years. The mean for the sample was 11 years, and the median was 9 years. A breakdown is provided below in Table 3.

Table 3
Length of Experience in Library Field

Length of Experience (Q13)	Respondents	
	n	%
< 5 years	40	26
5 – < 10 years	37	24
10 - < 15 years	27	18
15 - < 20 years	19	13
20 - < 25 years	16	11
25 - < 30 years	8	5
30 – 35 years	5	3
TOTAL	152	100

Eighty-nine percent of respondents worked more than 30 hours a week, with 70% having a full 40-hour workweek.

In terms of primary job function, 53 (35%) respondents reported spending at least fifty percent of their typical workweek involved in Circulation. The corresponding figures in other areas were 29 (19%) for Reference, 12 (8%) in Cataloging / Processing, four (3%) in Interlibrary Loan, and three (2%) in Acquisitions. The remaining 51 or 34% of respondents were involved in a combination of these different activities, including 12

who spent fifty percent or more of their time in other functions such as outreach or marketing activities, or in providing computer support to library patrons.

Table 4
Primary Job Function

Work Activity Where Respondents Spend 50% or More Time (Q15)	Respondents	
	n	%
Circulation	53	35
Reference	29	19
Cataloging / Processing	12	8
Interlibrary loan	4	3
Acquisitions	3	2
Serials	0	0
Others (Outreach, Marketing, Computer Support)	12	8
Combination	39	26
TOTAL	152	100

Seventy-six percent of respondents had more than 5 years' experience with computers, whereas Internet access was relatively recent. Only 31% have had more than 5 years' experience using the Internet, while access for 51% began between 1997 to 1999. A fifth had access as recently as 1999. Five percent are newcomers with less than two years' experience. Details are in Table 5 below.

Table 5
Experience with Computers and the Internet

Experience	Access to Computers (Q12)		Access to Internet (Q11)	
	n	%	n	%
Since 2001	0	0	1	1
Since 2000	3	2	6	4
Since 1999	5	3	20	13
Since 1998	8	5	27	18
Since 1997	8	5	31	20
Since 1996	12	8	17	11
Prior to 1996	116	76	47	31
TOTAL	152	100	149	98

Note. Data for internet access exclude three respondents who omitted Q11. Percentages computed were still based on the total sample size of 152 respondents to allow data across tables to be compared.

Awareness of Web Search Tools

All survey respondents reported being aware of at least two or more of the Web search tools listed on the questionnaire. Only one respondent reported being aware of only two tools, namely MSN Search and Yahoo!, while five persons reported being familiar with all 20 of the Web search tools listed. Seventy percent indicated awareness of at least half of the Web search tools listed in the survey. This distribution is summarized in Table 6 below.

Table 6
Profile of Respondents by Awareness of Web Search Tools

Number of Web Search Tools (From Survey List) Where Respondents Indicated Awareness (Q1a)	Respondents	
	n	%
< 5	5	3
5 - < 10	41	27
10 - < 15	83	55
15 – 20	23	15
TOTAL	152	100

The top two Web search tools with the highest awareness level were the Web directory, Yahoo!, and the search engine, Google. Ninety-seven percent or 148 respondents reported being aware of Yahoo!, while 95% or 144 indicated that they had heard of Google.

Table 7
Awareness by Web Search Tool

Web Search Tools Where Respondents Indicated Awareness (Q1a)	Respondents	
	n	%
Yahoo!	148	97
Google	144	95
Altavista	138	91
Ask Jeeves	135	89
Excite	131	86
MSN Search	126	83
Lycos	124	82
Netscape Search	121	80
HotBot	111	73
AOL Search	109	72
Northern Light	63	41
Looksmart	61	40
iWon	55	36
AllTheWeb (or FAST Search)	51	34
About	45	30
Direct Hit	40	26
EntireWeb	36	24
Dogpile (from “Others”)	26	17
Metacrawler (from “Others”)	19	13
Ixquick	17	11
Profusion	13	9
Open Directory Project (or dmoz)	9	6
Mamma (from “Others”)	3	2
Webcrawler (from “Others”)	2	1
Go / GoTo (from “Others”)	2	1
iLOR (from “Others”)	1	1
Inference (from “Others”)	1	1
Search (from “Others”)	1	1

Ninety-one percent reported being aware of search engine, Altavista, which was a close third. Over 70% reported familiarity with Ask Jeeves (135), Excite (131), MSN Search (126), Lycos (124), Netscape Search (121), Hotbot (111), and AOL Search (109).

Far fewer people reported being familiar with the next group of Web search tools. Between 24% to 41% of survey participants indicated that they were aware of Northern Light (63), Looksmart (61), iWon (55), AllTheWeb or FAST Search (51), About (45), Direct Hit (40), and EntireWeb (36).

Less than 20% of respondents were aware of meta-search engines, Ixquick and Profusion, and these tended to be respondents who also expressed a relatively high level of confidence using Web search tools. Open Directory Project (or dmoz) was the least known among the list of Web search tools, with only 9 or 6% indicating awareness.

Apart from the list of 20 Web search tools provided, a number of respondents included additional tools under "Others". The most commonly cited of these were the meta-search engines, Dogpile (26) and Metacrawler (19). Another 12 respondents listed NC Live as a Web search tool, even though it is really an electronic database resource available through the North Carolina Libraries for Virtual Education Initiative rather than a tool to search Web sites on the Internet.

Usage of Web Search Tools

Actual usage of tools was related to awareness, since respondents who used more of the Web search tools over the last three months were also aware of more of these tools. Only one person indicated that he or she had used as many as 15 of the tools at least once over the past three months. Eighty-four percent had used less than ten of the tools over the last three months. So while most respondents were familiar with a number of Web search tools, most of them used only a handful of them.

Table 8
Profile of Respondents by Usage of Web Search Tools

Number of Web Search Tools (From Survey List) Where Respondents Indicated Usage Over the Last Three Months (Q1b)	Respondents	
	n	%
< 5	66	43
5 - < 10	62	41
10 - < 15	23	15
15 – 20	1	1
TOTAL	152	100

Usage data fell roughly into four groups or "bands". The most widely used Web search tools were Yahoo! (86%) and Google (82%). About half the respondents reported using Ask Jeeves (54%), Altavista (53%), MSN Search (48%), and Netscape Search (45%) at least once over the last three months. About a third had used Excite (39%), Lycos (34%), AOL Search (25%) and HotBot (21%). The last group of tools were used the least and had usage levels of 14% or less. Detailed usage data is available in Table 9.

Table 9
Web Search Tools Used

Web Search Tool Used at Least Once Over the Last Three Months (Q1b)	Respondents	
	n	%
Yahoo!	130	86
Google	124	82
Ask Jeeves	82	54
Altavista	80	53
MSN Search	73	48
Netscape Search	68	45
Excite	60	39
Lycos	52	34
AOL Search	38	25
HotBot	32	21
AllTheWeb (or FAST Search)	22	14
iWon	17	11
About	16	11
Dogpile (from "Others")	16	11
EntireWeb	16	11
Looksmart	16	11
Northern Light	16	11
Metacrawler (from "Others")	14	9
Direct Hit	8	5
Ixquick	5	3
Profusion	3	2
Open Directory Project (dmoz)	2	1
Mamma	2	1
Webcrawler	2	1
GoTo	1	1

Most Popular Web Search Tools

Survey participants were asked to choose two Web search tools they used most at work or at home to find information on the Internet. Again, Yahoo! and Google emerged as the most widely used and preferred Web search tools among these public library paraprofessionals. This time, however, Google appeared to have an edge over Yahoo!, as

59% of respondents chose Google as one of their top two choices, compared to 56% for Yahoo!.

Table 10
Top Two Web Search Tools Used

Top Two Web Search Tools Used (Q2)	Respondents	
	n	%
Google	90	59
Yahoo!	85	56
MSN Search	25	16
Ask Jeeves	20	13
Netscape Search	11	7
Dogpile (from "Others")	9	6
Lycos	9	6
Metacrawler (from "Others")	9	6
Altavista	7	5
AOL Search	6	4
AllTheWeb (or FAST Search)	4	3
HotBot	3	2
iWon	3	2
Excite	2	1
Ixquick	2	1
About	1	1
Direct Hit	1	1
Looksmart	1	1
Mamma (from "Others")	1	1
Profusion	1	1
EntireWeb	0	0
Northern Light	0	0
Open Directory Project (or dmoz)	0	0

About 15% of respondents chose MSN Search and Ask Jeeves as one of their top two choices for Web search tools, but these fell far behind in terms of popularity when compared against Google and Yahoo!.

Confidence Level

The majority of survey participants appeared to be comfortable in searching for information on the Web. Forty-five percent indicated that they felt confident in navigating the Web and were comfortable teaching others how to use the various Web search tools available, while 43% felt comfortable in using at least one of the Web search tools, but were interested in learning more about them. Nine percent rated themselves at the "expert" level, having conducted training classes for library patrons or co-workers on how to use such tools. Only 4% of respondents felt that they knew little about the Web. This data is found in Table 11.

Seventy-two percent characterized their current work environments as knowledgeable, where almost everyone uses Web search tools regularly and there is sharing of new information among co-workers. Eighty-eight percent of respondents used Web search tools in their work, while 12% used Web search tools only occasionally as their work seldom required them to do so. This is in line with more recent findings by Jones (1999) in her survey of university library support staff that 87% of support staff do use Internet resources "to one degree or another" (p.719).

Table 11
Confidence in Web Searching Versus Workplace Situation

	Workplace Situation (Q3)					
Confidence in Web Searching (Q4)	I use web tools occasionally as my job seldom requires it	I am the only person to use web tools regularly	A few people use web tools but we seldom share new info with each other	Almost everyone uses web tools and I share new info with my co-workers	Co-workers regularly ask me to help them locate info on the Internet	TOTAL
Don't know much but alright with it	1 (1%)	0	2 (1%)	0	0	3 (2%)
Don't know much and unhappy about it	0	1 (1%)	0	0	0	1 (1%)
Know very little but taking steps to improve over next 6 months	1 (1%)	0	0	0	0	1 (1%)
Comfortable with tools but always interested in learning more	11 (7%)	1 (1%)	8 (5%)	43 (28%)	2 (1%)	65 (43%)
Confident navigating the Web and comfortable in teaching others	4 (3%)	1 (1%)	5 (3%)	56 (37%)	3 (2%)	69 (45%)
Very familiar with major tools and conducted training classes for patrons or co-workers	1 (1%)	2 (1%)	0	10 (7%)	0	13 (9%)
TOTAL	18 (12%)	5 (3%)	15 (10%)	109 (72%)	5 (3%)	152 (100%)

Of the 65 persons who indicated interest in learning more about Web search tools, 11 or 17% did not use them often in their work, and 9 or 14% worked in environments

where relatively few of their co-workers were familiar with and used such tools, or shared work-related information they found with each other.

A slightly higher proportion (80%) of respondents from regional libraries used Web search tools in their work and share information regularly compared to those from county libraries (67%), while a higher proportion in county libraries (15%) report using Web search tools only occasionally when compared to regional libraries (7%). This is found in Table 12.

Table 12
Workplace Situation by Type of Library

	Workplace Situation (Q3)					
Type of Library	I use web tools occasionally as my job seldom requires it	I am the only person to use web tools regularly	A few people use web tools but we seldom share new info with each other	Almost everyone uses web tools and I share new info with my co-workers	Co-workers regularly ask me to help them locate info on the Internet	TOTAL
County	15 (15%)	5 (5%)	10 (10%)	68 (67%)	4 (4%)	102 (100%)
Regional	3 (7%)	0	4 (10%)	33 (80%)	1 (2%)	41 (100%)
Municipal	0	0	1 (11%)	8 (89%)	0	9 (100%)
TOTAL	18 (12%)	5 (3%)	15 (10%)	109 (72%)	5 (3%)	152 (100%)

There was no significant difference among individual respondents in terms of confidence level between county and regional libraries, while observations about differences in municipal libraries are not conclusive because of the small sample size.

Respondents who spent less time on the Internet appeared to express less confidence in using Web search tools. One respondent commented, "Perhaps if I knew more about search tools, I would benefit more from using the WWW". Those who felt comfortable or confident using Web search tools typically spent at least one to two hours a day on the Internet. This excludes time spent on email. Details are found in Table 13.

Table 13
Confidence in Web Searching Versus Time Spent on the Internet

Confidence in Web Searching (Q4)	Time Spent on the Internet (Q10)						
	Don't spend any time	1 to 2 hours a week	Less than an hour a day	1 to 2 hours a day	3 to 4 hours a day	More than 4 hours a day	TOTAL
Don't know much but alright with it	0	1 (1%)	1 (1%)	0	0	0	2 (1%)
Don't know much and unhappy about it	0	1 (1%)	0	0	0	0	1 (1%)
Know very little but taking steps to improve over next 6 months	0	1 (1%)	0	0	0	0	1 (1%)
Comfortable with tools but always interested in learning more	1 (1%)	16 (11%)	15 (10%)	20 (13%)	10 (7%)	3 (2%)	65 (43%)
Confident navigating the Web and comfortable in teaching others	0	9 (6%)	9 (6%)	24 (16%)	19 (13%)	8 (5%)	69 (45%)
Very familiar with major tools and conducted training classes for patrons or co-workers	0	0	0	2 (1%)	7 (5%)	3 (2%)	12 (8%)
TOTAL	1 (1%)	28 (18%)	25 (16%)	46 (30%)	36 (24%)	14 (9%)	150 (99%)

Note. Data exclude two respondents who omitted Q10. Percentages computed were still based on the total sample size of 152 respondents to allow data across tables to be compared.

Impact of Using Web Search Tools on Work

An overwhelming majority of respondents agreed that Web search tools have had the most impact in terms of information access. Eighty-three percent of respondents felt that these tools have helped them gain access to information sources that were not otherwise available, while 61% felt that the use of Web search tools have helped them gain access to more current information.

Table 14
Impact on Work From Using Web Search Tools

Most Impact on Work From Using Web Search Tools (Q5)	Respondents	
	n	%
I get access to information sources that are not otherwise available	126	83
I get access to more current information	92	61
I get more demand for services from patrons or from co-workers	21	14
I get information for free or at reduced cost	15	10
I make decisions faster	9	6
I make better quality decisions	4	3
Little impact as I seldom use Web search tools to obtain information required in my work	8	5

While Web search tools have helped some obtain information more quickly, few respondents felt that these tools have had the most impact on their work either in terms of

helping them make decisions faster or make better quality decisions. A number felt that they could find the information they need by using alternatives such as print materials and electronic databases. One respondent commented, "I find it easiest to search our print resources first before searching the Internet". Another wrote, "I use the Internet only when I am unable to locate information within our library or branches. I also encourage our patrons to use the library's resources, in most cases, before using the Internet".

There were no discernible differences among county, regional and municipal libraries as far as impact is concerned.

Factors Influencing the Level of Web Searching at Work

The factors that respondents felt were the most important influencers in the level of Web searching they carried out at work were the availability of adequate Internet connections, computer hardware and software; reference questions from library patrons (particularly those involved in providing reference support to library patrons); and supervisor support.

Also seen as important, though not as critical, were the availability of time to develop the knowledge and expertise in Web searching, and the availability of formal training as part of the job.

Table 15
Factors Influencing the Level of Web Searching at Work

Factors Influencing the Level of Web Searching at Work (Q6)	Level of Importance				
	Very Important	Important	Somewhat Important	Not Important	TOTAL
Availability of adequate Internet connection, computer hardware and software	112 (74%)	27 (18%)	9 (6%)	3 (2%)	151 (99%)
Reference questions from patrons	100 (66%)	42 (28%)	4 (3%)	3 (2%)	149 (98%)
Support of supervisors	73 (48%)	52 (34%)	18 (12%)	7 (5%)	150 (99%)
Availability of my time to develop expertise	57 (38%)	67 (44%)	22 (14%)	4 (3%)	150 (99%)
Availability of formal training on Web searching as part of my job	37 (24%)	61 (40%)	36 (24%)	17 (11%)	151 (99%)

Note. Data exclude one respondent who omitted Q6. Percentages computed were still based on the total sample size of 152 respondents to allow data across tables to be compared.

Training Experience

Not all respondents had had formal training on how to use the Internet, and more specifically, how to use Web search tools. Most were self-taught and learned how to use Web search tools the same way they learned how to use the Internet.

Respondents were asked to rank the top three sources of training they had received in Web searching. Seventy-six percent of respondents reported that they learned about Web search tools primarily by surfing the Web on their own and by trial-and-error.

Table 16
Training Methods Employed in Web Searching

Training Methods Employed in Web Searching (Q9)	Ranking				
	1	2	3	Unranked	Not among top three
Self-taught (surfing, trial-and-error)	45 (30%)	16 (11%)	21 (14%)	34 (22%)	36 (24%)
Classroom training	34 (22%)	20 (13%)	18 (12%)	25 (16%)	55 (36%)
Informal help from others	9 (6%)	35 (23%)	23 (15%)	20 (13%)	65 (43%)
One-to one tutoring	15 (10%)	11 (7%)	8 (5%)	14 (9%)	104 (68%)
Online guides on Web searching	2 (1%)	5 (3%)	3 (2%)	7 (5%)	135 (89%)
Self-study guides / books	2 (1%)	6 (4%)	9 (6%)	13 (9%)	122 (80%)
Online training course	1 (1%)	2 (1%)	4 (3%)	2 (1%)	143 (94%)
Search engine help screens	0	7 (5%)	10 (7%)	3 (2%)	132 (87%)
Professional magazines and newsletters	0	3 (2%)	2 (1%)	1 (1%)	146 (96%)
Training video	0	0	0	0	152 (100%)
Listservs and discussion groups	0	0	0	0	152 (100%)
No training	0	0	1 (1%)	0	151 (99%)

Sixty-four percent had received classroom training in Web searching, while 57% received informal help from others.

As input to determining preferred methods for future Web training, respondents were asked about their previous experience learning how to use the Internet and which training methods they felt were most helpful to them. These are summarized in Table 17.

Most agreed that the most effective training method was by using the tool itself. This was followed by formal classroom training which was cited by 64% of respondents as one of the top three training methods that were most useful in helping them learn how to use the Internet. Another 60% found informal help from others useful, while 34% indicated one-on-one tutoring as one of the sources of training they found most effective. One respondent described his or her experience learning about the Internet as "trial and error got me started…co-workers helped and workshops reinforced everything". This person also went on to add that workshops on Web searching usually present new search tools he or she was not familiar with.

A number found self-study guides and books, online help screens, and online training courses useful in their Internet training. Few utilized information from professional magazines or newsletters, and none reported receiving help from listservs or discussion groups.

Table 17
Training Methods Found Most Helpful When Learning the Internet

Training Methods Found Most Helpful When Learning the Internet (Q8)	Ranking				
	1	2	3	Unranked	Not among top three
Self-taught (surfing, trial-and-error)	49 (32%)	12 (8%)	20 (13%)	32 (21%)	39 (26%)
Classroom training	23 (15%)	34 (22%)	15 (10%)	26 (17%)	54 (36%)
Informal help from others	13 (9%)	35 (23%)	22 (15%)	21 (14%)	61 (40%)
One-to one tutoring	17 (11%)	12 (8%)	10 (7%)	14 (9%)	99 (65%)
Self-study guides / books	2 (1%)	6 (4%)	17 (11%)	10 (7%)	117 (77%)
Online help screens	1 (1%)	5 (3%)	14 (9%)	5 (3%)	127 (84%)
Online training course	4 (3%)	2 (1%)	3 (2%)	4 (3%)	139 (91%)
Professional magazines and newsletters	0	1 (1%)	2 (1%)	1 (1%)	148 (97%)
Training video	0	0	0	1 (1%)	151 (99%)
Listservs and discussion groups	0	0	0	0	152 (100%)
No training	1 (1%)	0	1 (1%)	0	150 (99%)

Issues of Concern on the Web

Respondents appeared to be most concerned with the accuracy of information available on the Web, and with privacy and confidentiality. Eighty-seven percent indicated that they were either very concerned or concerned about information accuracy, while 84% felt very concerned or concerned with privacy and confidentiality on the Web. Seventy-three percent were concerned with broken links and outdated information, 68% were concerned with copyright issues, and 61% with slow response time because of heavy online traffic.

Table 18
Issues of Concern on the Web

Issues of Concern on the Web (Q7)	Level of Concern				
	Very Concerned	Concerned	Somewhat Concerned	Not Concerned	TOTAL
Accuracy of information on the Web	74 (49%)	57 (38%)	17 (11%)	4 (3%)	152 (100%)
Privacy and confidentiality	86 (57%)	41 (27%)	18 (12%)	6 (4%)	151 (99%)
Broken links and outdated information	52 (34%)	59 (39%)	31 (20%)	10 (6%)	152 (100%)
Copyright issues	38 (25%)	65 (43%)	34 (22%)	13 (9%)	150 (99%)
Slow response because of online traffic	41 (27%)	51 (34%)	37 (24%)	23 (15%)	152 (100%)
Too much information on the Web	18 (12%)	55 (36%)	44 (29%)	35 (23%)	152 (100%)

Note. Data exclude respondents who omitted sections in Q7. Percentages computed were still based on the total sample size of 152 respondents to allow data across tables to be compared.

Information overload was less of a concern, with 48% of respondents indicating that they were either very concerned or concerned about this area, while 23% felt that this was not of concern to them.

Resources that Support Learning and Adaptation

Only 16% of respondents reported being members of library or paraprofessional organizations, such as the American Library Association (ALA), North Carolina Library Association (NCLA), or the North Carolina Library Paraprofessional Association (NCLPA).

Very few had visited Web sites or online resources of paraprofessional organizations and interest groups like the ALA Library Support Staff Interests Round Table (LSSIRT), the Council on Library/Media Technicians (COLT), Library Support Staff Resource Center, Library Support Staff.com, or received information recently from LIBSUP-L (a discussion group for library support staff), or paraprofessional publication, *Associates: The Electronic Library Support Staff Journal*.

Table 19
Resources Visited or Information Received

Web Resources Visited or Received Information From at Least Once in Last Three Months (Q17)	Respondents	
	n	%
ALA Support Staff Interests Round Table (LSSIRT) Web site	14	9
Library Support Staff.com Web site	7	5
LIBSUP-L listserv	4	3
Council on Library/Media Technicians (COLT) Web site	2	1
Library Support Staff Resource Center Web site	1	1
Associates: The Electronic Library Support Staff Journal	1	1

VI. DISCUSSION AND APPLICATION

Based on the findings from this study, paraprofessionals in North Carolina public libraries appear to have adapted well in the transition to a Web world. This is despite half of the respondents starting their library careers in the pre-Internet era, and nearly a fifth only having access to the Internet as recently as 1999.

Almost all of the paraprofessionals surveyed used at least two or more Web search tools, and many spent time on the Internet on a daily basis. While more people were aware of, and used Yahoo!, a higher percentage cited Google as one of their top two choices for Web search tools. This is interesting since users carrying out a Web search on Yahoo! actually receive results that are generated by Google's index if results are not found within Yahoo's own directory of links. This automatic forwarding of the search query to Google is not apparent on Yahoo's Home Page and it is unlikely that many users were actually aware of this. Since the quality of search results will be similar as they both originate from the same source, this difference is perhaps a reflection of user preferences relating to the search interface or the functionality provided by each search tool. Favorable or "less-than-favorable" past experiences with the tool could be a factor, as well as familiarity since users tend to remain with a few tools they feel comfortable and happy with.

The chief impact of Web searching among these paraprofessionals has been greater access to information sources that would otherwise not be readily available and to information that is more current. Few respondents felt that these tools have had a

significant impact on their work either in terms of helping them make decisions faster or make better quality decisions.

While the majority of survey respondents reported being either comfortable or confident navigating the Web independently, it is clear that training opportunities exist. Nearly half of the paraprofessionals indicated interest in learning more. Also, the 4% who felt they knew little about the Web would benefit from structured training to provide them with the necessary skills. The American Library Association/Support Staff Interests Round Table (ALA/SSIRT) Task Force on Access to Continuing Education and Training Opportunities (2000) recognized that "although there has been rapid deployment of electronic databases, the Internet, and other resources, there has not been nearly enough training for the staff who use these resources" (p. 4).

Apart from time spent exploring the Web, and obtaining informal help from others who are more knowledgeable, classroom training and one-to-one tutoring appear to be the most helpful training methods in this medium, and should be employed in future structured training efforts. The State Library of North Carolina could consider delivering online courses, or adding training guides on Web searching and Web tools on its Web site as an added resource for paraprofessionals and other library staff who wish to upgrade their knowledge and skills. A listserv or discussion forum specifically for library paraprofessionals in North Carolina public libraries could be set up for them to subscribe to so that they can share experiences, questions and suggestions with one another. By building on the network of paraprofessionals in North Carolina public libraries, more

opportunities can be created for people to share and tap in to the knowledge that exists in this experienced group.

The survey showed very low awareness of resources to support learning and adaptation to changing technologies that are available online from paraprofessional organizations and interest groups. Few paraprofessionals were aware of the existence of such Web resources as the Library Support Staff Resource Center Web site and *Associates: The Electronic Library Support Staff Journal*, or had ever received information from these sources. More publicity to encourage public library paraprofessionals to visit these sites, especially the Web site of the Council on Library/ Media Technicians (COLT) and others like it, is needed. The COLT Web site has an extensive bibliography of resources that would be useful for anyone interested in finding literature on issues affecting paraprofessionals (Gibson, 2001).

Only 16% of paraprofessionals reported being members of library or paraprofessional organizations such the American Library Association (ALA) or its Library Support Staff Interests Round Table (LSSIRT), the North Carolina Library Association (NCLA), or the North Carolina Library Paraprofessional Association (NCLPA). These organizations should perhaps look into the reasons for the low participation rates and find ways to encourage more paraprofessionals to become members and "plug-in" to the networking and training opportunities available.

Content-wise, training on searching the Web should address issues of concern expressed by these paraprofessionals. This would include information on privacy and

confidentiality, and internet security. Training on how to evaluate the accuracy or authenticity of information found on the Web will increase confidence and enable users to better assess the information found on Web sites. The issues surrounding copyright should also be discussed.

VII. CONCLUSION

Library paraprofessionals play a vital role in public libraries today. They form the majority of personnel staffing public libraries. The tasks they perform are no longer simply clerical in nature. Technological changes have transformed duties performed at virtually every level of the library.

Greater knowledge and confidence in the use of Web search tools facilitates access to information sources on the Internet. While this does not necessarily result in better quality decisions, quick access to accurate information is key in improving one's effectiveness on the job in our knowledge economy today.

Greater job effectiveness brings about increased personal confidence. By helping public library paraprofessionals achieve greater impact in their workplace, they can in turn have a positive impact on the library patrons they come into contact with, and hopefully, the public at large.

It is hoped that the survey instrument developed and findings from this study will be useful to library paraprofessional organizations and interest groups within North Carolina as well as outside the state, such as the ALA Library Support Staff Interests Round Table (LSSIRT), the Council on Library/Media Technicians (COLT), and other groups such as the ALA Continuing Library Education and Networking Round Table (CLENE) and the Public Library Association (PLA).

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Student Research Project

1 March 2002

Dear library director,

I am writing to ask for your assistance in a study that examines the training needs of library paraprofessionals relating to the use of web search tools. This survey is being conducted among all the public libraries in the state, except for the six largest county library systems in North Carolina.

As you know, searching for information on the World Wide Web is a challenging task with the host of information available today and the sheer amount of new information being added to the Web daily. This study examines how paraprofessional staff in public libraries are using various web search engines and directories in their work, in order to identify specific areas where added training may be required.

Enclosed are _____ copies of the survey questionnaire. Please distribute the questionnaires provided to a sample of paraprofessional staff in your library system. In order for this study to yield relevant and meaningful results, it is important that I obtain data from a cross-section of staff in your library. In selecting staff to complete this survey, please try to include a mix of paraprofessional staff along varying dimensions (such as years of service, years of library experience, educational experience and experience using the Web), so that the data obtained reflects the staff profile within your own library. Where there are two or more branches in your library system, please try to include at least one paraprofessional from each branch library. This will help ensure that the data gathered from this study reflects, as far as possible, the actual needs of public library paraprofessionals across the state.

The survey questionnaire has been designed so that it should take less than 15 minutes to complete. I hope you will encourage your staff to take a few minutes to participate in this study. Their involvement is valuable in helping us understand and identify specific needs that exist.

This study is being carried out as part of research for my Masters Paper. Your staff's participation in this study is completely voluntary, and they may choose not to answer any question that they wish to omit. All information provided by your staff will be completely anonymous and kept confidential. Only aggregate data will be reported, and individual responses will not be attributed to your staff or your library. All survey responses will be destroyed on completion of this study.

If you have any questions regarding this research, please feel free to contact my advisor, Dr Evelyn Daniel (Tel: 919-9628062, Email: daniel@ils.unc.edu) or myself (Tel: 919-9289430, Email: taye@ils.unc.edu). This study has been approved by the Academic Affairs Institutional Review Board of The University of North Carolina at Chapel Hill. You may contact Barbara Davis Goldman, Ph.D. (Chair), Academic Affairs Institutional Review Board (CB# 4100, 201 Bynum Hall, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27599-4100, Tel: 919-9627761, Email: aa-irb@unc.edu) at any time during this study if you have questions or concerns about participants' rights in this research study.

Survey respondents have been asked to enclose their completed questionnaires in the sealed envelopes provided. A stamped, self-addressed envelope has been included with this cover letter for you to return all of the completed questionnaires at once, and I appreciate very much your assistance in facilitating this process. As I hope to be able to share summary results by mid April 2002, I would appreciate it very much if these questionnaires can be returned latest by 15 March 2002.

Thank you for your help in this project. If you would like to receive the URL for the summary results of this study, please provide your email address below and return this together with the questionnaires. Alternatively, you may email your request to me at taye@ils.unc.edu.

Sincerely,

Endrina Tay
Graduate Student
School of Information and Library Science
The University of North Carolina at Chapel Hill

****

Please send me the URL for the summary results for this study.

Name: _____

Email: _____

Mailing address (for a hard copy summary only):

_____

_____

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Student Research Project

1 March 2002

Dear library staff member,

I invite you to participate in a study that examines the training needs of library paraprofessionals relating to the use of web search tools. You are being asked to participate as part of a sample of paraprofessional staff in public libraries across the state of North Carolina.

As you know, the vast amount of information available on the World Wide Web today makes finding accurate and useful information on the Web a challenging task. This study examines how paraprofessional staff in public libraries are using various web search engines and directories in their work. The aim is to identify specific areas where added training may be required. I hope you will consider taking a few minutes to participate in this study. Your involvement is valuable in helping us understand and identify specific needs that exist.

The attached survey questionnaire has been designed so that it should require less than **15 minutes** to complete. Simply select the appropriate response(s) for each question, and feel free to add any additional comments you may have on the form itself.

This study is being carried out as part of research for my Masters Paper. Your participation in this study is completely voluntary, and you may choose not to answer any question that you wish to omit. All information you provide will be completely anonymous and kept confidential. Only aggregate data will be reported, and individual responses will not be attributed to you or your library. All survey responses will be destroyed on completion of this study. Return of this survey will be deemed as indication of your consent to participate in this project.

If you have any questions regarding this research, please feel free to contact my advisor, Dr Evelyn Daniel (Tel: 919-9628062, Email: daniel@ils.unc.edu) or myself (Tel: 919-9289430, Email: taye@ils.unc.edu). This study has been approved by the Academic Affairs Institutional Review Board of The University of North Carolina at Chapel Hill. You may contact Barbara Davis Goldman, Ph.D. (Chair), Academic Affairs Institutional Review Board (CB# 4100, 201 Bynum Hall, The University of North Carolina at Chapel Hill, Chapel

Hill, North Carolina 27599-4100, Tel: 919-9627761, Email: aa-irb@unc.edu) at any time during this study if you have questions or concerns about your rights as a participant in this research study.

Thank you in advance for your help in this project. Please seal your completed questionnaire in the envelope provided and hand it to your library director who has been requested to return your responses.

Sincerely,

Endrina Tay
Graduate Student
School of Information and Library Science
The University of North Carolina at Chapel Hill

SURVEY QUESTIONNAIRE

1. Are you aware of each of the following web search tools ? If so, have you used that tool at least once over the last three months? Check all that apply.

	(a) I am aware of this tool	(b) Used it at least once over the last 3 months
About	( )	( )
Altavista	( )	( )
AllTheWeb (or FAST Search)	( )	( )
AOL Search	( )	( )
Ask Jeeves	( )	( )
Direct Hit	( )	( )
EntireWeb	( )	( )
Excite	( )	( )
Google	( )	( )
HotBot	( )	( )
IWon	( )	( )
Ixquick	( )	( )
Looksmart	( )	( )
Lycos	( )	( )
MSN Search	( )	( )
Netscape Search	( )	( )
Northern Light	( )	( )
Open Directory Project (or dmoz)	( )	( )
Profusion	( )	( )
Yahoo!	( )	( )
Others, please specify: _____	( )	( )

2. Which of the following web search tools are the top two you use most at work or at home to find information on the Internet? Check a maximum of two responses that apply to you best.

( ) About
( ) Altavista
( ) AllTheWeb (or FAST Search)
( ) AOL Search
( ) Ask Jeeves
( ) Direct Hit
( ) EntireWeb
( ) Excite
( ) Google
( ) HotBot
( ) IWon
( ) Ixquick
( ) Looksmart
( ) Lycos
( ) MSN Search
( ) Netscape Search
( ) Northern Light
( ) Open Directory Project (or dmoz)
( ) Profusion
( ) Yahoo!
( ) Others, please specify: _____
( ) I don't use the Internet. *Go to Question 2(b) overleaf.*
( ) I don't use any of these web search tools. *Go to Question 2(b) overleaf.*

2(b). If you do not use any of the web search tools listed on the previous page, why not? Check one response that applies to you best.

( ) They are not useful to me.
( ) I do not have the time to learn how to use them.
( ) I find them difficult to use.
( ) I can find the information I need by using other sources e.g. print and non print materials and electronic databases like NC Live.
( ) Others, please specify: _____

3. Which statement best describes your current situation at your workplace? Check one response that applies to you best.

( ) I use web search tools only occasionally to search for information as my job seldom requires me to do so.
( ) I am the only person in my workplace who uses web search tools regularly to search for information I need to do my job.
( ) A few people in my workplace use web search tools regularly to search for work-related information, but we seldom share the information we find with each other.
( ) Almost everyone in my workplace uses web search tools regularly, and I often share new information I find with my co-workers.
( ) My co-workers regularly ask me to help them locate information they need on the Internet.

Comments:

_____

_____

4. Which statement best describes how you feel about searching for information on the Web right now? Check one response that applies to you best.

( ) I don't know much about the Web and that's all right with me.
( ) I don't know much about the Web and I'm not happy with the situation.
( ) I know very little about how to search the Web and I am going to take active steps to improve that over the next 6 months.
( ) I am familiar with some of the web search tools mentioned in Questions 1 and 2, and am comfortable using at least one of them, but am always interested in learning more.
( ) I am confident navigating the Web and feel comfortable in teaching others how to use the various web search tools available.
( ) I am very familiar with the major web search tools and have conducted training classes for library patrons or co-workers on how to use them.

5. How do you feel your use of web search tools has had an impact on your work most? Check a maximum of two responses that apply to you best.

( ) I get access to information sources that are not otherwise available.
( ) I get more current information.
( ) I make decisions faster.
( ) I make better quality decisions.
( ) I get information for free or at reduced cost.
( ) I get more demand for my services from patrons and from co-workers.
( ) I seldom use web search tools to obtain information required in my work, so this does not apply to me.
( ) Others, please specify: _____

6. How important are the following factors in determining the current level of Web searching you do currently at work?

   a. Availability of adequate Internet connection, computer hardware and software
      ( ) Very important
      ( ) Important
      ( ) Somewhat important
      ( ) Not important

   b. Availability of my time to develop expertise
      ( ) Very important
      ( ) Important
      ( ) Somewhat important
      ( ) Not important

   c. Availability of formal training on web searching as part of my job
      ( ) Very important
      ( ) Important
      ( ) Somewhat important
      ( ) Not important

   d. Support of supervisors
      ( ) Very important
      ( ) Important
      ( ) Somewhat important
      ( ) Not important

   e. Reference questions from library patrons
      ( ) Very important
      ( ) Important
      ( ) Somewhat important
      ( ) Not important

7. How concerned are you about the following?

   a. Accuracy of information on the Web
      ( ) Very concerned
      ( ) Concerned
      ( ) Somewhat concerned
      ( ) Not a concern

   b. Too much information on the Web
      ( ) Very concerned
      ( ) Concerned
      ( ) Somewhat concerned
      ( ) Not a concern

   c. Slow response because of online traffic
      ( ) Very concerned
      ( ) Concerned
      ( ) Somewhat concerned
      ( ) Not a concern

   d. Broken links and outdated information
      ( ) Very concerned
      ( ) Concerned
      ( ) Somewhat concerned
      ( ) Not a concern

e. Privacy and confidentiality
( ) Very concerned
( ) Concerned
( ) Somewhat concerned
( ) Not a concern

f. Copyright issues
( ) Very concerned
( ) Concerned
( ) Somewhat concerned
( ) Not a concern

8. Think about **how you learned about the Internet** and your initial encounter(s) using it. Initial encounter(s) may be in the form of email, viewing webpages, searching for information, playing games or listening to music, completing an online form, or buying a product/service online.

What kind of training was most helpful to you? RANK the top three responses that applies to you best.

Rank (1-3)
( ) One-to-one tutoring
( ) Classroom training
( ) Online training course
( ) Information from online help screens
( ) Self-study guides / books
( ) Professional magazines / newsletters
( ) Training video
( ) Listservs / Discussion groups
( ) Informal help from other users
( ) Self-taught (e.g. surfing, trial-and-error)
( ) I haven't received any form of Internet training.

Comments:

_____

_____

9. Having learned about the Internet, think about your primary source of training on **how to use web search tools** (i.e. search engines or directories) to find information on the Web? RANK the top three responses that applies to you best.

Rank (1-3)
( ) One-to-one tutoring
( ) Classroom training
( ) Online training course
( ) Online guides on web searching
( ) Search engine help screens
( ) Self-study guides / books
( ) Professional magazines / newsletters
( ) Training video
( ) Listservs / Discussion groups
( ) Informal help from other users
( ) Self-taught (e.g. surfing, trial-and-error)
( ) I haven't received any form of training on searching the Web.

Comments:

_____

_____

10. Excluding email, how much time do you spend on the Internet on average in a typical week (at work and at home)? Check one response that applies to you best.

( ) I don't spend any time on the Internet.
( ) 1 to 2 hours a week
( ) Less than 1 hour a day
( ) 1 to 2 hours a day
( ) 3 to 4 hours a day
( ) More than 4 hours a day

11. How long have you had access to the Internet either through a personal account or at work? Check one response that applies to you best.

( ) Since 2001
( ) Since 2000
( ) Since 1999
( ) Since 1998
( ) Since 1997
( ) Since 1996
( ) Prior to 1996

12. How long have you been using computers in general? Check one response that applies to you best.

( ) Since 2001
( ) Since 2000
( ) Since 1999
( ) Since 1998
( ) Since 1997
( ) Since 1996
( ) Prior to 1996

13. How long have you worked in the library field?

_____ years (round up to the nearest year)

14. How many hours do you work in a typical work week?

_____ hours (round up to the nearest hour)

15. What percentage of your time do you spend on the following activities at work in a typical week? If you do not spend any time on the activity, just enter 0%.

Reference: ……. _____%
Circulation: …… _____%
Cataloging / Processing: …… _____%
Interlibrary loan: …… _____%
Acquisitions: ……. _____%
Serials: …….. _____%
Others, please specify: _____ _____%

16. List the library or paraprofessional organizations you are a member of.

    a.

    b.

    c.

    Comments:

    _____

    _____

17. Which of the following web resources have you visited or received information from at least once in the last 3 months?

    ( ) Council on Library/Media Technicians (COLT) website
    ( ) Associates: The Electronic Library Support Staff Journal
    ( ) Library Support Staff Resource Center
    ( ) Library Support Staff.com
    ( ) LIBSUP-L email list
    ( ) ALA Support Staff Interests Round Table (LSSIRT) website

    Comments:

    _____

    _____

18. Please list your formal job title at work:

    _____

***** THE END*****

Thank you for your participation.